

The Fox River Headwaters Ecosystem Workshop

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The Bureau of Endangered Resources (BER) is charged with the inventory and analysis of biotic and ecological resources across Wisconsin. However, given the size of the state, the ecological complexity of the landscape, and the resources needed to compile meaningful inventory results and keep them current, it is a task that depends on information gathered from a variety of sources. In order to create new approaches to comprehensive inventory, BER partnered with the Wolf River Basin Geographic Management Unit (GMU) to identify the most significant ecological resources in the Basin by involving as many individuals with first-hand knowledge of those resources as possible in a pilot workshop in 1999 (Epstein et al. 2002). Following the success of that effort, BER partnered with the Upper Fox GMU to apply a similar approach to identify the significant ecological resources of the Fox River Headwaters Ecosystem (FRHE) located in the western portion of the GMU. As with the Wolf Basin, the project's purposes were to increase the common understanding of the significant ecological resources of the area among all participants, as well as to work in teams to recommend significant sites for ongoing conservation planning.

Approach and Methods

At the FRHE workshop, people with local knowledge of the area's resources worked together to score the ecological significance of 83 proposed Sites, using the following set of seven ecological attributes.

The Site:

1. . . is unfragmented and functionally intact.
2. . . includes locally critical habitat for common plants or animals.
3. . . includes uncommon or rare natural communities.
4. . . includes uncommon or rare plants, animals, or other features.
5. . . has actual connectivity with other important sites.
6. . . has potential connectivity with other important sites.
7. . . has potential for natural community restoration.

Working with a trained facilitator, teams of 10-12 participants reached agreement on a score for each attribute for each Site, based on its own merit, applying marks of H (high), M (medium), L (low), or U (unknown). Each team worked around a table-sized working map showing the locations of all Sites and Individual Records, and each participant received a booklet of spreadsheets with the detailed records for each Site (Appendix E). The map and spreadsheets were constructed using two different, complimentary methodologies. One method, the Coarse Filter screening approach, used GIS analysis followed by analysis of aerial and satellite images for a "birds-eye" assessment of the entire Fox River Headwaters Ecosystem (FRHE) landscape. The other method was based entirely on Contributor Records, or observations documented by individuals who have observed the area at an on-the-ground level.

Records from Coarse Filter Analysis

The Coarse Filter screening approach was modeled after a similar assessment used for the Wolf River Basin in 1999 and is described in detail in Appendix B. The objective was to identify sites with potential for high quality natural communities; species that are threatened, endangered, or of special concern; or

other factors reflecting high conservation value. The primary emphasis was identification of potential high-quality natural communities. A related goal of the project was to continue to develop a cost effective, easily replicated process to identify sites using GIS and aerial photography.

The Coarse Filter process involved a GIS analysis and follow-up analysis using aerial photography (see Appendix B). In order to maintain the cost efficiency of the Coarse Filter approach, this analysis was not supported by extensive ground-surveys or field work, only limited “windshield surveys.” While these methods would provide an important landscape scale analysis of the area, we knew that the methods might miss many small (< 40 acre) areas and areas whose attributes might not be represented by the data and criteria used (e.g., delineating different types of wetlands).

Using various GIS data layers, the staff at Clark Forestry, Inc. consolidated natural communities into general “site types” that could be identified on aerial photos based on their gross morphology, and wouldn’t fall through a coarse-grained GIS filter. By assessing the list of NHI element occurrences for the study area (threatened, endangered, and special concern species or natural communities in the NHI database), looking at existing state natural areas, and consulting those personally familiar with the FRHE, CFI developed a set of 10 site types that capture all of the natural communities represented in the study area.

After executing GIS queries, evaluating aerial photography, and conducting windshield surveys, CFI identified 48 potential high-quality areas covering almost 92,000 acres within the study area. The three lowland types - open wetlands, forested wetlands, and stream corridors - were the most common and made up 80% of the total acreage. Kettle complexes were the most frequent type on upland sites. (see Appendix B for details).

Records from Individual Contributors

The first step in gathering site information was to identify individuals who might have specialized knowledge of natural communities, critical habitats, populations of rare plants and animals, and other unique features in the FRHE area. The intent was to reach out to potential experts from all walks of life including scientists, resource managers, conservation enthusiasts, amateur naturalists, anglers, and bird-watchers. From an initial list of 157 individuals contacted by letter or phone, 30 responded with interest in participating and providing information, and they also suggested other potential contributors. Each contributor was asked to complete a Site Information Form (Appendix E) and identify a rough site boundary on a map of the area provided. The end result was that 37 individuals provided 192 Contributor Records.

Delineating Sites and Teams for the Workshop

The 48 Coarse Filter Records and 192 Contributor records were combined into 83 Sites based on their ecological characteristics and proximity to each other. Each site may encompass more than one contributor or coarse filter record. A large working map and site information tables (Appendix E) were created for use at the workshop. The working maps show generalized “boundaries” for each Site and the locations of the individual Coarse Filter or Contributor records within them.

For the purposes of the workshop, the 83 Sites were apportioned among 5 teams in order to assign each team a reasonable number of Sites to score during the workshop. Although the general ecological characteristics and proximity played a role, these divisions were somewhat arbitrary. Each team was simply named for a color to easily cue workshop participants to locate their assignments on the working maps and in the spreadsheets. The distribution of Sites and the number of records are provided in Table D.1.

Table D.1. Workshop Sites.

Team	# of Sites	# of Coarse Filter Records	# of Contributor Records
Green Team	15	8	58
Blue Team	16	14	40
Purple Team	14	10	43
Red Team	19	8	30
Yellow Team	19	8	21

Workshop Site Results

All sites scored at the workshop are listed below (Table D.2) in decreasing order, according to their average scores for ecological significance. Those with the highest scores are listed first and where scores are tied, the sites are listed in alphabetical order.

The Workshop results, and subsequent analysis, are presented in more detail in the *Identification of Significant Ecological Sites* chapter, and their significance for conservation planning is discussed in the chapter *Opportunities for Conservation Design*.

Table D.2. Workshop Sites.

Site	Team	Average Score
Caves / Tagatz Fisheries	Purple	3.00
Germania Wildlife Area	Blue	3.00
Grand River Wildlife Area	Blue	3.00
Neenah Creek Valley	Red	3.00
Norwegian Bay Wetlands	Yellow	3.00
Oxbo Wetlands	Blue	3.00
Puckaway Flatwoods	Blue	3.00
Puckaway Lake	Blue	3.00
Rock Hill Outcrops	Blue	3.00
White River Marsh Area	Blue	3.00
FRNW Refuge / Packwaukee	Red	2.86
Mecan River Fisheries Area	Green	2.86
Mecan Springs	Green	2.86
Mitchell's Glen	Yellow	2.86
Soules Creek Area	Green	2.86
Sugar Island Wetlands	Yellow	2.86
White River Fisheries	Green	2.86

Site	Team	Average Score
Head of Green Lake	Yellow	2.83
Lucerne Lake	Blue	2.83
Sucker Creek	Blue	2.83
White River - West Branch	Green	2.83
Meilke Lake	Green	2.75
Roy Creek Forest	Yellow	2.75
Stone Hill Swamp	Green	2.75
Buffalo Lake Area	Red	2.71
French Creek Wetland	Red	2.71
Lower Silver Creek	Yellow	2.60
Berlin Fen & Sedge Meadow	Blue	2.57
Corning - Weeting Lakes	Red	2.57
Lawrence Creek	Purple	2.57
Lower White River	Green	2.57
Fluctuating Shoreline Lakes	Purple	2.50
Oxford Correctional Area	Purple	2.50
Bass Lake	Green	2.43
Becker Waterfowl PA	Yellow	2.43
Bennett Oak Savannah	Yellow	2.43
Grotzke Rd. Area	Red	2.43
Jordan's Lake Wetland	Blue	2.43
Lake Maria	Yellow	2.43
Utley	Yellow	2.43
Greenwood Wildlife Area	Green	2.29
Lunch Creek	Green	2.29
Mt. Morris Cemetary	Green	2.29
Oxford Woods and Savanna	Purple	2.29
Princeton Sturgeon Site	Blue	2.29
Summerton Bog N/S	Red	2.29
Thompson Lake	Yellow	2.29
Marquette Marsh	Blue	2.20
Wood Lake	Green	2.20
Upper Neenah Creek	Purple	2.17
Bog Relics - Swamp Lake	Purple	2.14
Adams Cty. Nat. Waterfowl PA	Purple	2.00

Site	Team	Average Score
Bog Relics-Harris Pond	Purple	2.00
Briggsville Conifer Swamp	Red	2.00
Dreheim / Berndt Restoration	Yellow	2.00
Jordan Lake Area	Red	2.00
Koro Bog	Blue	2.00
Lime Kiln Bluff	Purple	2.00
Little Green Lake Mesic Forest	Yellow	2.00
Manchester Woods	Yellow	2.00
New Haven Woods	Red	2.00
Packwaukee Hdwd. Swamp	Red	2.00
Klawitter Creek Fen	Purple	1.86
Montello River	Purple	1.86
Grand Lake Wetland	Yellow	1.83
Jackson Kettle Complex	Purple	1.75
Kolka Property	Green	1.71
Swan Lake WA	Red	1.71
Hwy 82 Grasslands	Red	1.60
McCourtney (Oak Savanna Remnant)	Purple	1.57
SR 73 Degraded Wetland	Yellow	1.57
Grn Lk Station Sedge Meadow	Blue	1.50
Beechnut Road Barrens	Green	1.43
Green Lake Center	Yellow	1.43
Cuff Lake	Yellow	1.40
Freedom Grasslands	Red	1.40
Blue Lake Marsh	Red	1.33
Byers Wetland	Red	1.29
Mitchell Grassland	Red	1.29
Patrick Lake	Purple	1.29
Soo Line Prairie Remnant	Red	1.29
Bannerman Trail	Blue	1.14
Fox River Headwaters	Yellow	1.00
Lewiston Flatwoods	Red	U

